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10/674,650	09/30/2003	Shlomo Ovadia	42.P17372	4808

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EXAMINER	
WANG, QUAN ZHEN	

ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,650	OVADIA ET AL.	
	Examiner	Art Unit	
	Quan-Zhen Wang	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 10-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 10-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 10-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Francisco et al. (M. J. Francisco, et al., "Interdomain routing in optical networks", Proceedings of SPIE Vol. 4599, August 2001, pages 120-129).

Regarding claims 1 and 10-12, Francisco discloses a method for routing data across an enterprise network (figs. 1-6) including a plurality of optical burst-switched (OBS) networks (fig. 6, network formed by (AS 20000 and AS 20200) and (AS 1239 and AS 1200)), comprising: receiving a data transmission request from a node in a first network identifying a destination node in a second network remote to the first network to where the data is to be transmitted, wherein transmission of the data requires the data to be routed along a route that spans at least a portion of multiple networks, including at least one OBS network (see for example, Section 1. Introduction); employing an external gateway protocol to route the data between egress and ingress nodes of the first, second, and any intermediate network(s) along the route, wherein the external gateway protocol includes an extended version of a Border Gateway Protocol (BGP) that includes an extension to the path attributes field in a BGP UPDATE message (fig.

2, the UPDATE message in the box. Also see: 2.2 OBGP Protocol) to enable advertisement of availability or non-availability of one or more communication paths between an ingress and an egress BGP router in a given OBS network; employing an internal routing protocol to route the data through the first and second networks and may intermediate networks along the route; and dynamically updating a routing table of a given BGP router in response to a route advertisement contained in the BGP UPDATE message received by the given BGP router (Note that the UPDATE message is updated dynamically).

Regarding claim 2, Francisco further discloses that each of the first and second networks comprises OBS networks (fig. 6(5) on page 127).

Regarding claim 3, Francisco further discloses that the route traverse one OBS network (fig. 6(5) on page 127).

Regarding claim 4, the first network of Francisco is a non-OBS network (fig. 6).

Regarding claim 5, the second network of Francisco is a non-OBS network (fig. 6).

Regarding claim 6, the OBS of Francisco is a PBS.

Regarding claim 7, the OBS of Francisco is a WDM PBS.

Regarding claim 13, data is routed between networks using hop-by-hop routing scheme in the system of Francisco.

Regarding claim 14, Francisco further discloses col-locating an OBS with an BGP router in at least one OBS (fig. 6).

Regarding claim 15, data is routed between networks using a packetized transmission scheme (data transmitted in packets) in the system of Francisco.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 16-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francisco et al. (M. Francisco, et al., "Interdomain routing in optical networks", Proceedings of SPIE Vol. 4599, August 2001, pages 120-129) in view of Zang et al. (U.S. Patent US 7,209,975 B1).

Regarding claims 16, 19, 21, 24-28, 30, 33-38, Francisco discloses a method for routing data across an enterprise network (figs. 1-6) including a plurality of optical burst-switched networks (fig. 6, network formed by (AS 20000 and AS 20200) and (AS 1239 and AS 1200)) and data can be transmitted between networks as an autonomous system and configuring a respective router operatively coupled to at least one non-OBS network to enable data transmissions between said at least one non-OBS network and at least one of the plurality of OBS networks, Francisco further discloses designate a node in each OBS network as a BGP router (fig. 6, AS 20000, AS 1239); interchanging BGP UPDATE messages between the nodes that a designated as BGP route, the BGP UPDATE message including an extension to a path attributes field to enable

advertisement of availability or non-availability of one or more communication paths between an ingress and an egress BGP router in a given OBS network; and dynamically updating routing table for each BGP router in response to route advertisement contained in the BGP UPDATE message (Section 2.2 OBGP Protocol; Section 3, Testing OBGP). Francisco differs from the claimed invention in that Francisco does note specifically disclose designating at least one edge node in each OBS network as a BGP router. However, it is well known in the art to designate at least one edge node in each network as a BGP router. For example, Zang discloses designating designate at least one edge node in each network as a BGP router (fig. 3, NE 306, 307, 312 and 314). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to designate at least one edge node in each network as a BGP router, as it is disclosed by Zang, in the system of Francisco. One of ordinary skill in the art would have been motivated to do so in order to extend the area coverage of the network. As to claims 30, 33-38, the modified system of Francisco and Zang further differs from the claimed invention in that Francisco and Zang do not specifically disclose a machine-readable medium embedded with instructions to perform operations for the system. However, Zang further discloses that management of the system comprises "a programmed general-purpose computer" (column 16, lines 1-13). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to develop commend instruction for the operation of the system and embed the program in a machine-readable medium.

One of ordinary skill in the art would have been motivated to do so in order to automatize the controlling and operation of the system.

Regarding claims 17, 22, and 31, the OBS of Francisco is a PBS.

Regarding claims 18, 23, and 32, Francisco further discloses the OSB network comprises a WDM PBS network (Section 1, Introduction).

Regarding claims 20 and 29, the modified system of Francisco and Zang differs from the claimed invention in that Francisco and Zang does not specifically disclose that the non-OBS comprises an Ethernet-based network. However, Applicant admits that an Ethernet-based network is well known in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include a an Ethernet-based network as a non-OBS network in the modified system of Francisco and Zang. One of ordinary skill in the art would have been motivated to do so in order to extend service coverage and provide communication services for customers using an Ethernet-based network.

Response to Arguments

3. Applicant's arguments file on September 26, 2007 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki et al. (U.S. Patent US 6,891,793 B1) disclose an optical networking using BGP.

Francisco et al. (M. J. Francisco, et al., "End-to-End Signaling and Routing for Optical IP Networks", IEEE International Conference on Communications, April 28 – May 2, 2002, Volume 5, May 2002, Pages 2870-2875) disclose an approach of extending the BGP routing protocol to support light path setup and management across optical networks.

Jeong et al. (Sangjin Jeong et al., "Optical BGP Routing Convergence in Lightpath Failure of Optical Internet", Apr. 2002, ETRI Journal, vol. 24, No. 2, pp. 97-107) discloses an extension of BGP for optical cross connection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

qzw
10/28/2007

Quan-Zhen Wang